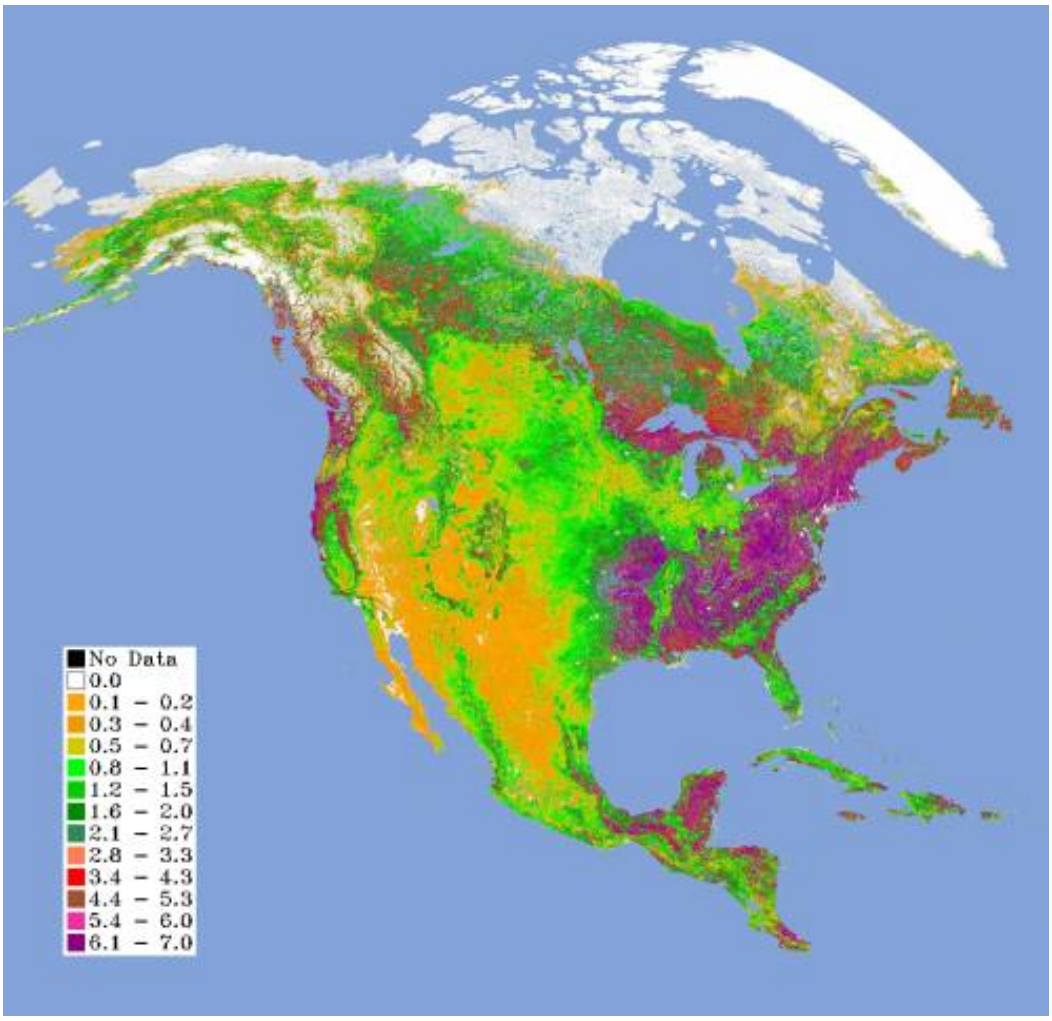
EDG Data Set Name
MODIS/Terra Leaf Area Index/FPAR 8-day L4 Global 1km SIN Grid

Granule Shortname
MOD15A2

Version	Acquisition Range	Science Quality Status
V001	Jun 09, 2000 (2000161) – Feb 3, 2001 (2001033)	Provisional as of Feb 26, 2000
V003	March 21, 2000 (2000081) – December 31, 2002 (2002365)	Provisional as of Nov 1, 2000
V004	February 24, 2000 (2000055)	Provisional



MODIS V004 LAI over North America for May 24, 2000. Data has been reprojected to Goodes.

Data Set Characteristics
Area = ~ 10° x 10° lat/long
Image Dimension = 2 (1200x1200 row/column)
Average File Size = 5.8 Mb
Resolution = 1 kilometer
Projection = Sinusoidal
Data Format = HDF-EOS

Bands = 4

Product Description
The MOD15 Leaf Area Index (LAI) and Fraction of Photosynthetically Active Radiation absorbed by vegetation (FPAR,) are 1 km global data products updated once each 8-day period throughout each calendar year. LAI defines an important structural property of a plant canopy as the one sided leaf area per unit ground area. FPAR measures the proportion of available radiation in the photosynthetically active wavelengths (400 to 700 nm) that a canopy absorbs. These products are derived from the atmosphere corrected surface reflectance product MOD09, land cover product MOD12 and ancillary information on surface characteristics using a 3D radiative transfer model. LAI and FPAR are biophysical variables which describe canopy structure and are related to functional process rates of energy and mass exchange. Both LAI and FPAR have been used extensively as satellite derived parameters for calculation of surface photosynthesis, evapotranspiration, and annual net primary production. These products are essential in calculating terrestrial energy, carbon, water cycle processes, and biogeochemistry of vegetation.

NOTE: These products are validated, meaning that product uncertainties are well defined over a range of representative conditions. Although there may be later improved versions, these data are ready for use in scientific publications. *Users are advised that there was a bug in the module responsible for reading-in view/illumination geometries (negative values were interpreted incorrectly). This bug affects local product values: at tile scale the effect is negligible. Bug is fixed as of February 28, 2003. The affected composites include 2000057-2000313 and 2003001-2003057. Development team will perform reprocessing of affected composites with minimum requirenment of reprocessing tiles over EOS core validation sites.*

SDS	UNITS	DATA TYPE-bit	FILL VALUE	VALID RANGE	Multiply by SCALE FACTOR	Calibrated_nt
Fpar_1km	%	8-bit unsigned integer	255	0 - 100	0.01	21
Lai_1km	m^2/m^2	8-bit unsigned integer	255	0 - 100	0.10	21
*FparLai_QC	class flag	8-bit unsigned integer	255	0 - 254	na	na
FparExtra_QC	class flag	8-bit unsigned integer	255	0 - 254	na	na

Non-Terrestrial Value Index/Fill Value Index

Fpar_1km and Lai_1km	
255	Fill Value
254	Landcover assigned as perennial salt or inland fresh water
253	Landcover assigned as barren, sparse vegetation (rock, tundra, desert)
252	Landcover assigned as perennial snow, ice
251	Landcover assigned as permanent wetlands/inundated marshland
250	Landcover assigned as urban/built-up
249	Landcover assigned as unclassified/not able to determine

*** Quality Control Bit Index (Valid only for V004 MOD15A2)**

FparLai_QC 4 BITFIELDS IN 8-BITWORD

MODLAND_QC		**START 0 END 1 VALIDS 4**
	00=0	Best Possible
	01=1	OK, but not the best
	10=2	Not produced,due to cloud
	11=3	Not produced,due to other reasons
DEADDETECTOR		**START 2 END 2 VALIDS 2**
	00=0	Detectors apparently fine for up to 50% of channels 1,2
	01=1	Dead detectors caused >50% adjacent detector retrieval
CLOUDSTATE		**START3 END 4 VALIDS 4**
	00=0	Significant clouds NOT present (clear)
	01=1	Significant clouds WERE present
	10=2	Mixed cloud present on pixel
	11=3	cloud state not defined,assumed clear
SCF_QC		**START 5 END 7 VALIDS 4**
	000=0	Main(RT) method used with the best possible results
	001=1	Main(RT) method used with saturation
	010=2	Main(RT) method failed due to geometry problems, empirical method used
	011=3	headers="start5_4"Main(RT) method failed due to problems other than geometry, emprical method used
	100=4	Couldn't retrieve pixel

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Retrieve the MOD15A2v4 MODIS product through the LP DAAC Data Pool
Via Search Tool: http://e0dps01u.ecs.nasa.gov:22000/OPS/drill?attrib=esdt&esdt=MOD15A2.4&group=MOLT
Via FTP Directory: ftp://e0dps01u.ecs.nasa.gov/MOLT/MOD15A2.004/

Order Data through the EOS Data Gateway
(http://edcimswww.cr.usgs.gov/pub/imswelcome/)

EOS Data Gateway Search Tips

Data Center:	EDC-ECS
Sensor:	MODIS

Dataset: MODIS/Terra Leaf Area Index/FPAR 8-day L4 Global 1km SIN Grid
Spatial: HORIZONTALTILENUMBER Max/Min VERTICALTILENUMBER Max/Min
Geographic Extent: Type Lat/Long Range or Draw on Map
Temporal Extent: 2000-02-24 to present

Product Information

Product Description
(http://modis-land.gsfc.nasa.gov/products/products.asp?ProdFamID=5)

User Guide
(http://cybele.bu.edu/modismisr/products/modis/productuserg.html)

Algorithm Theoretical Basis Document (ATBD)
(http://eospso.gsfc.nasa.gov/atbd/modistables.html)

MODIS Standard Data Products Catalog
(http://modis.gsfc.nasa.gov/data/dataproducts.html)

EOS Data Products Handbook Volume 1 (2000)
(http://eospso.gsfc.nasa.gov/eos_homepage/for_scientists/data_products/vol1.php)

Contact Information

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